MATERIAL SAFETY DATA SHEET

SRM Supplier: National Institute of Standards and Technology
Standard Reference Materials Program
100 Bureau Drive, Stop 2320
Gaithersburg, Maryland 20899-2320

SRM Number: 2806
MSDS Number: 2806
SRM Name: Medium Test Dust (MTD) in Hydraulic Fluid
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SECTION I. MATERIAL IDENTIFICATION

Material Name: Medium Test Dust (MTD) in Hydraulic Fluid

Description: SRM 2806 consists of a polydisperse, irregularly-shaped mineral dust suspended in hydraulic fluid at a nominal concentration of 2.8 mg/L. SRM 2806 is provided as a two bottle set, each containing approximately 400 mL.

Other Designations: Medium Test Dust (MTD) in Hydraulic Fluid (Mobil AERO HFA[1]; aviation hydraulic fluid; hydrotreated light naphthenic petroleum distillate)

Name	Chemical Formula	CAS Registry Number
Hydraulic Fluid	Not Applicable (petroleum)	64742-53-6

DOT Classification: Not Regulated

SECTION II. HAZARDOUS INGREDIENTS

Hazardous Component	Nominal Concentration (%)	Exposure Limits and Toxicity Data
Aviation Hydraulic Fluid	~100	Rat, Oral LD_{50}: > 2 000 mg/kg
		OSHA TWA (oil mist): 5 mg/m^3
Mineral Dust	~0.0003	No occupational exposure limits established

SECTION III. PHYSICAL/CHEMICAL CHARACTERISTICS

Hydraulic Fluid
Appearance and Odor: red oil; mild odor
Relative Molecular Mass: not applicable
Boiling Point (°C): 154
Specific Gravity (water=1): 0.85
Viscosity (@ 40 °C, cSt) : 13.8
Water Solubility (@ 15 °C): negligible

[1]Identification of certain commercial materials in this MSDS does not imply recommendation or endorsement by the National Institute of Standards and Technology, nor does it imply that the materials are necessarily the best available for the purpose.

SECTION IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point: 92 °C **Method Used:** Not Applicable **Autoignition Temperature:** Not Applicable

Flammability Limits in Air (Volume %): **UPPER:** Not Established
LOWER: Not Established

Unusual Fire and Explosion Hazards: This material is a slight fire hazard.

Extinguishing Media: Use carbon dioxide; foam; dry chemical; and water fog.

SECTION V. REACTIVITY DATA

Stability: **X** **Stable** _____ **Unstable**

Stable at normal temperature and pressure.

Conditions to Avoid: Avoid heat, sparks, flames, and other sources of ignition; avoid contact with incompatible materials.

Incompatibility (Materials to Avoid): Avoid contact with strong oxidizers.

See Section IV: "Fire and Explosion Hazard Data".

Hazardous Decomposition or Byproducts: Thermal decomposition of hydraulic fluid produces smoke, carbon monoxide, phosphorus oxides, sulfur oxides, aldehydes, and ketones.

Hazardous Polymerization _____ **Will Occur** **X** **Will Not Occur**

SECTION VI. HEALTH HAZARD DATA

Route of Entry: **X** **Inhalation** **X** **Skin** **X** **Ingestion**

Health Hazards (Acute and Chronic): Prolonged repeated skin contact with low viscosity petroleum distillates may defat the skin resulting in possible irritation and dermatitis. Melanosis may appear later. Repeated or prolonged contact to to the eyes may cause conjunctivitis. Lung damage may occur if aspirated into the lungs and may be fatal.

Medical Conditions Generally Aggravated by Exposure: Not Applicable

Listed as a Carcinogen/Potential Carcinogen:

	Yes	No
In the National Toxicology Program (NTP) Report on Carcinogens		X
In the International Agency for Research on Cancer (IARC) Monographs		X
By the Occupational Safety and Health Administration (OSHA)		X

EMERGENCY AND FIRST AID PROCEDURES:

Skin Contact: Remove contaminated shoes and clothing. Rinse affected area with large amounts of water followed by washing the area with soap and water. Watch for irritations and treat them accordingly. Obtain medical assistance if necessary.

Eye Contact: Immediately flush eyes, including under the eyelids, with copious amounts of water for at least 15 minutes. Obtain medical assistance immediately.

Inhalation: If adverse effects occur, move the victim to fresh air. If respiratory irritation, nausea, dizziness, or unconsciousness occurs, seek immediate medical assistance. If breathing is difficult, give oxygen; if the victim is not breathing, give artificial respiration by qualified personnel.

Ingestion: If ingested, seek immediate medical attention. **DO NOT** induce vomiting.

NOTE to Physicians: Material if ingested may be aspirated into the lungs and can cause chemical pneumonitis. Treat appropriately.

TARGET ORGAN(S) OF ATTACK: None reported.

SECTION VII. PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be Taken in Case Material Is Released: Eliminate all ignition sources. Ventilate area of spill. Wear appropriate personal protective equipment. Adsorb on fire retardant treated sawdust, diatomaceous earth, sand or other non-combustible material. Shovel up with spark-resistant shovel and remove to appropriate waste disposal facility in accordance with current applicable laws and regulations. Prevent spills from entering sewers or drains and contact with soil.

Waste Disposal: Follow all federal, state, and local laws governing disposal.

Handling and Storage: Refer to "Handling and Use" in the SRM 2806 Certificate of Analysis. Keep containers tightly closed when not in use. Store in a cool, dry, well ventilated area away from heat. Store away from strong oxidizing agents and combustible materials. Approved respiratory protective equipment must be used when vapor or mists concentrations exceed applicable standards. Wear splash resistant safety goggles. Wear chemical resistant clothing and gloves. An eye wash station and washing facilities should be readily available near handling and use areas.

NOTE: Contact lenses pose a special problem; soft lenses may absorb irritants and all lenses concentrate them. **DO NOT** wear contact lenses in the laboratory.

SECTION VIII. SOURCE DATA/OTHER COMMENTS

Sources: Mobil Oil Corp., Material Safety Data Bulletin**,** *Mobil Aero HFA*, 20 June 1998
MDL Information Systems, Inc., MSDS *Hydrotreated Light Naphthenic Distillate*, 18 September 2003.

Disclaimer: Physical and chemical data contained in this MSDS are provided only for use in assessing the hazardous nature of the material. The MSDS was prepared carefully, using current references; however, NIST does not certify the data in the MSDS. The certified values for this material are given in the NIST Certificate of Analysis.